

CLAIMS:

1. A method of increasing the collapse resistance of a tubular, the method comprising:
 - (a) locating a tool having at least one bearing member within a tubular;
 - (b) placing the bearing member in engagement with a wall of the tubular to apply a radial force to a discrete zone of the wall; and
 - (c) applying said radial force to further discrete zones of the wall, whereby the level of radial force is selected such that the collapse resistance of the tubular increases.
2. The method of claim 1, wherein said radial force is selected to induce compressive yield of at least an inner portion of the wall.
3. The method of claim 1, wherein said radial force is selected to induce plastic deformation of at least an inner portion of the wall.
4. The method of claim 1, wherein the bearing member is a rolling element and the tool is moved relative to the tubular to provide a rolling contact between the rolling element and the tubular wall.
5. The method of claim 1, further comprising moving the tool relative to the tubular to provide a sliding contact between the bearing member and the tubular wall.

6. The method of claim 1, wherein the tool is advanced axially relative to the tubular.

7. The method of claim 1, wherein the tool is rotated relative to the tubular about a longitudinal axis of the tubular.

8. The method of claim 1, wherein the tool is located within the tubular.

9. The method of claim 1, wherein the tubular is subject to a degree of diametric expansion.

10. The method of claim 9, wherein the tubing is subject to permanent diametric expansion.

11. The method of claim 1, wherein the tubular experiences little or no diametric expansion.

12. The method of claim 1, wherein the tool is moved relative to the tubular such that the bearing member describes a helical path along the tubular wall.

13. The method of claim 1, wherein the tool has a plurality of bearing members, and each bearing member is urged into engagement with the wall of the tubular to impart a radial force to a respective discrete zone of the tubular wall.

14. The method of claim 13, wherein the respective discrete zones are circumferentially spaced.
15. The method of claim 13, wherein the respective discrete zones are axially spaced.
16. The method of claim 1, wherein the bearing member applies the radial force to the tubular wall as a point load.
17. The method of claim 1, wherein the bearing member applies the radial force to the tubular wall as a line load.
18. The method of claim 1, wherein the bearing member is fluid pressure actuated.
19. The method of claim 1, wherein the tool comprises a plurality of bearing members and at least one of the bearing members is independently radially movable.
20. The method of claim 1, wherein the tool comprises a ball-peening tool and is impacted against the inner surface of the wall.
21. The method of claim 1, wherein the tubular has been previously swage-expanded.

22. The method of claim 1, further comprising swage-expanding the tubular prior to steps (b) and (c).
23. The method of claim 1, when executed on surface.
24. The method of claim 1, when executed downhole.
25. The method of claim 1, wherein the tubular is located within a larger diameter tubular.
26. The method of claim 25, wherein the larger diameter tubular is substantially unexpandable.
27. The method of claim 1, wherein the tool creates a strain path in the wall of the tubular having a circumferential element.
28. The method of claim 27, wherein the tool creates a circumferential strain path.
29. The method of claim 1, wherein the tool creates a helical strain path.
30. A method of increasing the collapse resistance of a tubular, the method comprising diametrically expanding the tubular within a larger diameter tubular.

31. A method of increasing the collapse resistance of a tubular, the method comprising applying radial forces to discrete areas of a tubular wall.

32. The method of claim 31, comprising applying said radial force using a mechanical tool.

33. The method of claim 32, wherein the tool creates a strain path in the wall of the tubular having a circumferential element.

34. The method of claim 33, wherein the tool creates a circumferential strain path.

35. The method of claim 32, wherein the tool creates a helical strain path.

36. A tubular as treated by claim 31.

37. A method of increasing the collapse resistance of a tubular, the method comprising increasing at least one of the strength and hardness of at least the inner bore wall.

38. The method of claim 37, comprising increasing at least one of the strength and hardness of at least the inner bore wall by strain hardening.

39. The method of claim 37, comprising increasing at least one of the strength and hardness of at least the inner bore wall by cold work.

40. The method of claim 37, comprising increasing at least one of the strength and hardness of at least the inner bore wall by metallurgical transformation.

41. The method of claim 37, comprising increasing at least one of the strength and hardness of at least the inner bore wall by diffusion of elements, which elements promote increased hardness.

42. A metallic tubular having an inner bore wall of relatively high strength and hardness.

43. A method of increasing a collapse resistance of a tubular comprising:
locating a tubular in wellbore, the tubular having an inner surface; and
inducing a compressive stress in the inner surface thereby increasing the collapse resistance of the tubular.

44. The method of claim 43, wherein the compressive stress is induced in the inner surface of the tubular prior to locating the tubular in the wellbore.

45. The method of claim 43, wherein inducing a compressive stress in the inner surface comprises nitriding.

46. The method of claim 43, wherein inducing a compressive stress in the inner surface comprises:

placing a stress induction member proximate a portion of the inner surface of the tubular; and

imparting a radial stress to the inner surface of the tubular via the stress induction member.

47. The method of claim 46, wherein the stress induction member comprises a rotary expansion tool.

48. The method of claim 47, wherein inducing a compressive stress in the inner surface comprises imparting a radial stress to the inner surface of the tubular via the stress induction member.

49. The method of claim 48, further comprising monitoring one or more parameters while imparting the radial stress to the inner surface of the tubular via the stress induction member.

50. The method of claim 49, wherein monitoring one or more parameters comprises monitoring the one or more parameters with one or more fiber optic sensors.

51. The method of claim 50, wherein monitoring the one or more parameters with one or more fiber optic sensors comprises monitoring one or

more fiber optic sensors distributed at different discrete zones along the tubular.

52. The method of claim 49, wherein monitoring the one or more parameters comprises monitoring at least one of the radial force imparted to the inner surface of the tubular and an outer diameter of the tubular.

53. The method of claim 49, further comprising:
applying a fluid pressure to the stress induction member in order to impart the radial force on the inner surface of the tubular; and
varying the fluid pressure applied to the stress induction member in response to one or more of the monitored parameters.